IN THE CLAIMS

This is a complete and current listing of the claims, marked with status identifiers in parentheses. The following listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) A computer tomography unit, comprising:

~~having~~ an X-ray beam source ~~(1);~~ ~~and having~~

a radiation detector ~~(4) which has~~ including a ~~number~~ plurality of detector elements ~~(6a-6x), having~~;

a data acquisition system ~~(10)~~ for reading the electrical signals ~~which are~~ produced by the detector elements ~~(6a-6x)~~ and for processing ~~them~~ the signals to form raw data~~,~~;

~~and having~~ an image computer, ~~(12) which is~~ arranged downstream from the data acquisition system ~~(10) and to which~~, for receiving the raw data ~~can be supplied~~ via a data transmission path; and ~~(11),~~

characterized by

an evaluation device, ~~(18) which is~~ designed for automatic assessment of the quality of the radiation detector ~~(4)~~ and~~, in addition,~~ for automated assessment of at least one of the quality of the data acquisition system ~~(10)~~ and~~/or of~~ the data transmission path ~~(11)~~, wherein the evaluation device ~~(18) can carry out the~~is adapted to perform the following ~~steps:~~,

~~a)~~ initiat~~ion of~~ing at least one measurement for production of raw data with the X-ray beam source ~~(1)~~ switched off,

~~b)~~ calculating, using the raw data, ~~calculation of~~ at least one value of a signal offset of the radiation detector ~~(4)~~, and

~~c)~~ driving ~~of~~ a display device ~~(20) in order~~ to display

an evaluation result ~~in which~~including the calculated value ~~is included~~.

2. (Currently Amended)A computer tomography unit, comprising:

~~having~~ an X-ray beam source ~~(1) and having~~ ;

a radiation detector ~~(4) which has a number~~ including a plurality of detector elements ~~(6a-6x), having~~ ;

a data acquisition system ~~(10)~~ for reading the electrical signals ~~which are~~ produced by the detector elements ~~(6a-6x)~~ and for processing ~~them~~ the signals to form raw data~~,~~ ; and

~~having~~ an image computer ~~(12) which is~~ arranged downstream from the data acquisition system ~~(10)~~ and ~~to which~~for receiving the raw data ~~can be supplied~~ via a data transmission path ~~(11),~~ ; and

~~characterized by~~

an evaluation device ~~(18) which is~~ designed for automatic assessment of the quality of the radiation detector ~~(4)~~ and~~,~~ ~~in addition,~~ for automated assessment of the quality of at least one of the data acquisition system ~~(10)~~ and~~/or~~ of the data transmission path ~~(11)~~, wherein the evaluation device ~~(18)~~ is adapted to perform ~~can carry out~~ the following ~~steps:~~,

~~a)~~ ~~initiation~~ initiating~~of~~ a ~~number~~t least two ~~of~~ measurements for production of raw data, ~~in which case it is possible to~~wherein ~~automatically change~~ at least one of the drive ~~or~~ and setting of the X-ray beam source is automatically changeable ~~(1)~~ between the at least two measurements~~,~~ ,

~~b)~~ calculating, using the raw data, ~~calculation of~~ at least one value of at least one parameter which allows a quality statement about the radiation detector ~~(4)~~, and

~~c)~~ driving ~~of~~ a display device ~~(20) in order~~ to display an evaluation result ~~in which~~including the calculated value ~~is included~~.

3. (Currently Amended)The computer tomography unit as

claimed in claim 2, wherein
~~characterized in that~~ the parameter describes at least one of spectral linearity ~~or~~ and signal linearity of the radiation detector ~~(4)~~.

4. (Currently Amended) The computer tomography unit as claimed in ~~one of claims 1 to 3, characterized in that~~ claim 1, wherein the evaluation device ~~(18) can~~ is adapted to compare the calculated value with a tolerance limit which ~~can be~~ is at least one of predetermined ~~or is~~ and read from a memory ~~(21)~~.

5. (Currently Amended) The computer tomography unit as claimed in ~~one of claims 1 to 4,~~
~~characterized in that~~ claim 1, wherein the evaluation result ~~can be~~ is displayable ~~ed~~ graphically on the display device ~~(20), in particular with two or more parameters being combined to form a graphical pattern~~.

6. (Currently Amended) The computer tomography unit as claimed in ~~one of claims 1 to 5,~~
~~characterized by~~ claim 1, further comprising a memory device ~~(22)~~ for storage of the evaluation result.

7. (Currently Amended) The computer tomography unit as claimed in ~~one of claims 1 to 6,~~
~~characterized in that~~ claim 1, wherein a further parameter ~~can be determined~~ is determinable which is suitable for assessment of the quality of at least one of the data acquisition system ~~(10)~~, of a component, of a module element ~~or~~ and of a subarea of the data acquisition system ~~(10)~~.

8. (Currently Amended) The computer tomography unit as claimed in claim 7, wherein
~~characterized in that~~ the parameter is suitable for at least one of assessment ~~of an electronics channel which is associated with a detector element, in particular for assessment~~ of an integrator ~~(30a 30x)~~ in the electronics

channel, ~~for~~ assessment of a monitor channel, ~~for~~ assessment of a demultiplexer~~ (31)~~, ~~or for~~and assessment of an A/D converter~~ (33)~~.

9. (Currently Amended) The computer tomography unit as claimed in ~~one of claims 1 to 6, characterized in that~~claim 1, wherein a further parameter ~~can be determined~~is determinable which is suitable for assessment of the data transmission path~~ (11)~~.

10. (Currently Amended) The computer tomography unit as claimed in ~~one of claims 1 to 9, characterized in that~~claim 1, wherein the evaluation device determines the value of the parameter statistically from the measured raw data.

11. (Currently Amended) The computer tomography unit as claimed in ~~one of claims 1 to 10, characterized in that~~claim 1, wherein the evaluation device is implemented by driving by ~~means~~ use of appropriate software ~~which, in particular,~~ is provided in a ~~computer (16), in particular in a~~ control computer~~, which is~~ fitted away from the gantry~~ (7)~~.

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (New) The computer tomography unit as claimed in claim 2, wherein the evaluation device is adapted to compare the calculated value with a tolerance limit which is at least one of predetermined and read from a memory.

16. (New) The computer tomography unit as claimed in claim 2, wherein the evaluation result is displayable

graphically on the display device.

17. (New) The computer tomography unit as claimed in claim 5, wherein two or more parameters are combined to form a graphical pattern.

18. (New) The computer tomography unit as claimed in claim 16, wherein two or more parameters are combined to form a graphical pattern.

19. (New) The computer tomography unit as claimed in claim 2, further comprising a memory device for storage of the evaluation result.

20. (New) The computer tomography unit as claimed in claim 2, wherein a further parameter is determinable which is suitable for assessment of the quality of at least one of the data acquisition system, of a component, of a module element and of a subarea of the data acquisition system.

21. (New) The computer tomography unit as claimed in claim 20, wherein the parameter is suitable for at least one of assessment of an integrator in the electronics channel, assessment of a monitor channel, assessment of a demultiplexer, and assessment of an A/D converter.

22. (New) The computer tomography unit as claimed in claim 2, wherein a further parameter is determinable which is suitable for assessment of the data transmission path.

23. (New) The computer tomography unit as claimed in claim 2, wherein the evaluation device determines the value of the parameter statistically from the measured raw data.

24. (New) The computer tomography unit as claimed in claim 2, wherein the evaluation device is implemented by driving by use of appropriate software which is provided in a

control computer fitted away from the gantry.